REMARKS

Claims 1,2, 9-13, and 31-34 remain in the case. Claims 3-8, 14-30 have been cancelled without prejudice. Favorable reconsideration of the application, as amended, is respectfully requested.

CLAIM REJECTION - 35 U.S.C. 102

The Examiner rejected claims 1 and 2 under 35 U.S.C. 102(b) as being unpatentable in light of Campau et. al. '608. This rejection is respectfully traversed.

Amended claim 1 recites, in part:

a first fluid separator unit coupled to said first circuit and said second circuit ... having a moveable pressure boundary which enables ... said second circuit of pressurized brake fluid to selectively act upon said first ...a first set of at least two brake actuators operated by the application of pressurized brake fluid, each of the at least two wheel brake actuators being associated with a separate vehicle wheel;

...;

a second fluid separator unit coupled to said first circuit and said third circuit ... having a moveable pressure boundary which enables ... said third circuit of pressurized brake fluid to selectively act upon said second set of brake actuators ...

(emphasis added)

Note that the first set of brake actuators includes a plurality of at least two brake actuators, as indicated by the use of the plural word "actuators", and each of the at least two brake actuators is associated with a separate vehicle wheel. Similarly, the second set of brake actuators also includes a respective plurality of brake actuators

In Campau et. al. '608, the brake circuit 16 identified by the Examiner has only one brake actuator 11a. Therefore, the fluid separator unit 54a acting on the brake circuit 16 acts on only the single associated brake actuator 11a. Similarly, the brake

circuit 17 identified by the Examiner has only one brake actuator 11b, and the fluid separator unit 54b acting on the brake circuit 17 acts on only the single associated brake actuator 11b.

Campau et. al. '608 fails to show or suggest a proportional valve coupled to a first and second separator unit for acting on the first and second separator units where the first separator unit pressurizes brake fluid to a first set of brake actuators and a second separator unit pressurizes brake fluid to a second set of brake actuators. Accordingly, claim 1 is therefore allowable.

Claims 2 depends from claim 1 and is also allowable over the cited art for at least the same reasons as claim 1.

CLAIM REJECTION - 35 U.S.C. 103

The rejection of claim 9-12, and 31-34 under 35 U.S.C. 103(a) as being unpatentable over Campau et. al. '608 in view of Arwine , Tanaka or Ganzel '582 is respectfully traversed.

Claims 9 and 31 are patentable for same reason as Claim 1

First, Claims 9 and 31 each recite a braking system utilizing a first separator unit to pressurize brake fluid to a first set of brake actuators and a second separator unit to pressurize brake fluid to a second set of brake actuators. As discussed above for claim 1, none of Campau et. al. '608, Arwine, Tanaka, or Ganzel '582 either individually or in combination show or suggest the brake module as recited in claims 9 and 31. Therefore, since none of these references teach or suggest using a single fluid separator to supply a set of brake actuators, Claims 9 and 31, and the claims which depend therefrom, are patentable for at least this reason.

Claims 9 and 31 patentably claim a brake module and second brake module

Furthermore, contrary to the Examiner's assertion, the cited references fail to show or suggest "a brake module" and "a second brake module wherein said brake module and said second brake module cooperatively apply a braking torque to said first set and said second set of brake actuators" as recited in claims 9 and 31.

The Examiner disagreed with the Applicant over whether the references fail to suggest or disclose a second brake module in cooperation with the brake module as claimed. The Examiner states that the references show a second brake module in cooperation with the claimed brake module, citing Campau et. al. '608 brake module at 10, Arwine et al. modules at 26 and 78, Ganzel '582 plurality of modules in columns 1 and 2, and Tanaka et al. in figure 1 at elements 21-24, and 37 (Office Action, page 6, first paragraph.) (Note the Office Action incorrectly references "Ganzel '608"; applicant has interpreted the Office Action to read Campau et. al. '608).

Each of the "modules" as cited (Campau '608, Tanaka, and Awine) in the rejection is an electronic control modules (i.e., controllers) that receive input signals and output control signals for controlling actuation of a electrically actuated device. None of the electronic control modules referenced by the rejection are comparable to the second brake module as claimed.

The second brake module as claimed, shown at 60, is a head control unit having the associated valves for applying secondary braking operations such as anti-lock braking, a traction control, or a vehicle stability control, and not the electronic control module as shown in each of the references cited. This distinction, between the second brake module and the control module (e.g., controller), is clearly shown in claims 31-33 where a control module and second control module are recited for controlling the operations of the second brake module.

Ganzel '582 (col. 1 and 2) discloses a conventional brake booster/master cylinder in an ABS/TC/VSC braking system that uses an electronic control unit to regulate the pressure supplied to each wheel. This also fails to teach or suggest the first brake module in cooperation with the second brake module as claimed.

The rejection states that it would have been obvious to have supplied the device of Campau et. al. '608 with any or all of the modules claimed in 10-12 simply to improve the safety of the vehicle or to add some degree of modularity to make replacement of component parts easier and/or less expensive. The rejection further states it is old and well known to make plural parts singular and vice-versa dependent upon such well known engineering considerations as simplicity of design, cost, and parts repair/interchangeability.

The Federal Circuit has consistently said that in order for references to be properly combined they must contain some teaching or suggestion of the proposed combination. In *Panduit v. Dennison Manufacturing Co.*, 1 U.S.P.Q.2d 1593, 1597 (Fed. Cir. 1987), the Federal Circuit reviewed the District Court's finding that a plastic cable tie was obvious based on prior art under 35 U.S.C. 103. The District Court had concluded that *Panduit*'s cable tie was obvious because its components had separately appeared in prior patents. The Federal Circuit noted that the District Court, "improperly treated all cable ties as virtually interchangeable ...." *Panduit* at 1600. In reversing the District Court, the Federal Circuit noted that the prior art as a whole must suggest the combination claimed in the application; and "hindsight reconstruction from similar elements in separate prior patents would necessarily destroy virtually all patents and cannot be the law under 35 U.S.C. 103." *Panduit* at 1603, citing, *Akzo N. V. v. International Trade Commission*, 1 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1986), and *W.L. Gore & Associates, Inc. v. Garlock,* 220 U.S.P.Q. 303, 312 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 461 (1984).[1]

In the present invention, the brake module includes those components selectively arranged and fluidically coupled together for efficiently and seamlessly generating and applying hydraulic boost to pressurize the braking fluid and control the fluid flow rate to a second brake module for secondary braking operations such as

[1] See also, *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984); *Carella v. Starlight Archery, Inc.*, 231 U.S.P.Q. 644, 647 (Fed. Cir. 1986); and *Fromson v. Advance Offset Plate, Inc.*, 225 U.S.P.Q. 26,31 (Fed. Cir. 1985).

regenerative braking. The present invention provides an advantage of cooperatively implementing a hydraulic boost apply brake module into a braking system with a second brake module for applying secondary braking operations.

Here the rejection is treating all the references that contain any mention of the components brake module and control module as interchangeable and is attempting to justify an improper hindsight combination because "One having ordinary skill in the art at the time the invention was made would have found it obvious to have supplied the device of Campau et. al. '608 with any or all of the modules claimed...." (Office Action, Section 6, third paragraph). If applicants' apparatus could be reconstructed without the prior art as a whole suggesting the combination claimed, such hindsight reconstruction from similar elements in separate prior patents would necessarily destroy virtually all patents or be impossible for anyone to obtain a patent for any type of improved brake actuation mechanism. That is, any patent that claims the mere words proportional valve, isolation valve, brake module, and control module would be deemed prior art and unpatentable. Each of the elements as claimed including the their interactive functionality with one another is to be taken as a whole to determine nonobviousness. To merely conclude that such individual components are old and well known in the art and that any invention utilizing the combination of such components are obvious would negate the issuance of any future patents utilizing these components.

Furthermore, even if the prior art references were combined, the references fail to describe each and every aspect of applicants claimed invention as recited in the amended claims. It was shown earlier that the rejection failed to show a proportional valve selectively controlling the pressurized brake fluid in a first circuit where hydraulic brake fluid within the first circuit acts on a first fluid separator unit and a second separator unit, respectively. The pressure exerted on the first separator unit pressurizes brake fluid within a second brake circuit for acting upon a first set of brake

actuators and the pressure exerted on the second separator unit pressurizes brake fluid within a third brake circuit for acting upon a second set of brake actuators.

Therefore claims 9-12 and 31 are allowable.

Rejection of Claims 32 through 34

Regarding claims 32-34, the rejection states that these limitations are fairly suggested by Campau et. al. '608 as modified by anyone of the references above, since "isolation valves are an old and well know integral part of electronically controlled braking systems with abs, asr and stability control modules." Claims 32-34 do not recite isolation valves as the rejection states. Rather, the claims 32-34 recite control modules communicable with one another for controlling the operations of the brake modules and regenerative braking as claimed.

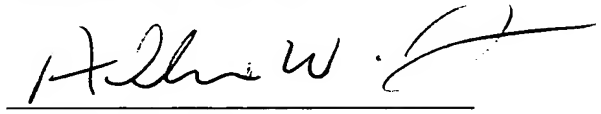
Moreover, claims 32-34 ultimately depend from claim 31 and are therefore allowable.

Rejection of Claim 13

The Examiner rejected claim 13 under 35 U.S.C. 103(a) as being unpatentable over Campau et. al. '608 in view of either Arwine et al. or Tonaka et al. or Ganzel '582 as applied to claim 9, and further in view of Ganzel '484. Claim 13 depends from claim 9 and is therefore also allowable for the same reasons as claim 9.

In view of the foregoing amendment and remarks, all pending claims are in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



Allen W. Inks
Reg. No. 37,358

MacMillan, Sobanski & Todd, LLC
One Maritime Plaza, Fourth Floor
720 Water Street
Toledo, Ohio 43604
Tel: 734-542-0900
Fax: 734-542-9569